

Kindly amend the Specification as follows.

[14] A method for utilizing photo-catalysis in volatile organic compound laden waste water management is through the use of titanium dioxide as a photo-catalyst. Titanium dioxide is mixed in with the volatile organic compound laden waste water. This solution is processed through a series of flat ~~plate~~ photo-reactors plates. For optimum use of the photo-reactors plates, the solution should be evenly distributed over the flat photo-reactor plates. This would maximize the amount of solution in contact with the flat ~~plate~~ photo-reactors plates. To distribute the incoming solution from a piped source to the rectangular photo-reactors plates, an intermediary device is required. In the present invention, an intake flow of volatile organic compound laden waste water is channeled to photo-reactor plates, and the photo-reactor plates are made of a special compound to allow ultraviolet light to enter the photo-reactor plates, but not leave.

[20] The present invention has a hollow cylindrical tube. The cylindrical tube runs the length of a photo-reactor plate. The tube is positioned below the photo-reactor plate or the photo-reactor plate sits atop the device. The cylindrical tube has a slotted opening on top. The photo-reactor plate fits into the slotted opening and is supported by the slotted opening. There is added reinforcement through the use of support braces on either side of the slotted opening along the cylindrical tube. These L-shaped braces add strength and support to the upright plates sitting in the slotted opening. The braces aid in the attachment of the cylindrical tubing and the photo-reactor plates.

[28] The present invention is a device to not only direct the intake flow of volatile chemical laden waste water to a photo-reactor plate (50), but moreover, the present invention has a photo-reactor plate (50) that traps ultraviolet light. The present invention has, in its preferred embodiment, a cylindrical tube manifold (10) which is hollow. Along the apex of the tube is a slotted opening (30). A photo-reactive plate (50) sits in this slotted opening (30). Along the right side of the slotted opening (30) are supporting braces (35). The supporting braces are L-shaped. In the present invention, volatile chemical laden waste water is neutralized by use of the photo-reactor plate (50) and the photo-catalyst. The volatile chemical laden waste water is channeled into the photo-reactor plate (50) where the photo-catalyst and ultraviolet waves break down the volatile organic compound laden waste water. It is important to recognize that if the photo-reactor plate (50) allows ultraviolet light to escape, or literally pass through it, the present invention will not function properly, and will not effectively eradicate volatile chemical laden waste water. Thus, the photo-reactor plate (50) must only allow ultraviolet light within it, but not permit the ultraviolet light to leave. ~~NOTE SOP AND PHOTO-REACTOR PLATE ARE THE SAME~~

[29] Figure 1 shows a cut away side view of a possible embodiment of the present invention. The manifold (10) is manufactured of an Acrylic SØDP of 16 wt TM, which is a double skinned acrylic sheet that is approximately 1200 mm wide. The acrylic sheets assist in maintaining even flow distribution through the channels (55) as shown. The photo-reactor plate (50) of the present invention is also made of an Acrylic SØDP of 16 wt TM, which is a double skinned acrylic sheet that is approximately 1200 mm wide.

Also the skin of the acrylic sheeting is so thin that the majority of UV radiation passes through the skin, and reacts with the titanium dioxide in the solution in the manifold (10) and photo-reactor plate (50), but the UV radiation cannot leave the manifold (10) and/or the photo-reactor plate (50). A 30 weight percentage cement is used to seal the sheet to the manifold. At the end of the manifold (10) is a hose clamp (20) and flexible tubing (40).

[30] The manifold (10) attaches to both ends of the acrylic sheet. More flexible tubing or a cap (45), depending on desired use, can be positioned at the opposite end of the manifold (10) from the flexible tubing (40). ~~At the opposite end of the manifold (10) from the flexible tubing (40) can be more flexible tubing or a cap (45) depending on desired use.~~ If the use of more than one of the present invention is desired flexible tubing (40) will be attached to both ends and connected with one another. Cap (45) will only be used at the end of the last of the a series of the present inventions if the present invention is connected in a series so that one present invention is connected to another present invention and so forth ~~to be use regardless of the number used.~~

[33] Figure 4 shows the present invention and the steps for assembling such. The manifold (10) is shown at an approximate length of 54". There is a cut away of each end of the manifold member of approximately 3". There is a cap (45) shown that can attach to one end of the present invention. Cap (45) is made of a polyurethane material and is then inserted in the interior of the manifold, and in this embodiment is 6" long. Around the center of the tubing is a groove of approximately 17 mm. There is a cement support at 3

and 47 inches to secure the manifold. The SOP photo-reactor plate is then inserted in one end of the pipe fashioned as a slot opening (30). This slot opening (30) acts as a flow header into the manifold (10). The end with the SOP photo-reactor plate is then cemented and welded.